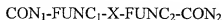


"Multifunctional linker molecules for tuning electronic charge transport through organic-inorganic composite structures and uses thereof"

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#### ABSTRACT

The invention relates to tuned multifunctional linker molecules for charge transport through organic-inorganic composite structures. The problem underlying the present invention is to provide multifunctional linker molecules for tuning the conductivity in nanoparticle-linker assemblies which can be used in the formation of electronic networks and circuits and thin films of nanoparticles. The problem is solved according to the invention by providing a multifunctional linker molecule of the general structure



in which X is the central body of the molecule,  $\text{FUNC}_1$  and  $\text{FUNC}_2$  independently of each other are molecular groups introducing a dipole moment and/or capable of forming intermolecular and/or intramolecular hydrogen bonding networks, and  $\text{CON}_1$  and  $\text{CON}_2$  independently of each other are molecular groups binding to nanostructured units comprising metal and semiconductor materials.